AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A linear recording medium, comprising a pattern of time-based servo transitions including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions having modulated distances between adjacent parallel servo transitions as a function of location of the first servo transitions on the medium, the modulated distances being encoded to define position error signals such that a drive designed to expect essentially no modulated distances between adjacent parallel servo transitions on the medium will generate the position error signals.

Claim 2 (Original): The medium of claim 1, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 3 (Original): The medium of claim 1, in which the linear recording medium is a magnetic recording medium.

Claim 4 (Original): The medium of claim 1, in which the linear recording medium is a tape recording medium.

Claim 5 (Currently amended): A system for intentionally generating position error signals in a data recording drive, comprising in combination:

a) a linear recording medium, upon at least a portion of which are recorded with a pattern of time-based servo transitions including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions having modulated distances between adjacent parallel servo transitions as a function of location on the medium, the modulated distances being encoded to define position error signals; and

b) a servo read head connected to the drive;

in which the drive is designed to expect essentially no modulated distance between adjacent parallel servo transitions on the medium, wherein the drive generates the position error signals encoded in the linear recording medium.

Claim 6 (Original): The system of claim 5, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 7 (Original): The system of claim 5, in which the speed of the linear recording medium relative to the servo read head is constant.

Claim 8 (Currently amended): A method of intentionally generating a position error signal in a data recording drive, comprising:

writing a pattern of time-based servo transitions including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions on at least a portion of a linear recording medium; and

modulating distance, as a function of location on the medium, between adjacent parallel servo transitions to encode the position error signal such that when the data recording drive is designed to expect essentially no modulated distance between adjacent parallel servo transitions on the medium, the data recording drive will generate the position error signal.

Claim 9 (Original): The method of claim 8, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 10 (Original): The method of claim 8, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Claim 11 (Original): The method of claim 8, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 12 (Original): The method of claim 8, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.

Claim 13 (Currently amended): The method of claim 8, in which the method comprises generating the position error signal in a step response pattern.

Claim 14 (Currently amended): The method of claim 8, in which the method comprises generating the position error signal in a pulse response pattern.

Claim 15 (Currently amended): The method of claim 8, in which the method comprises generating the position error signal in a frequency response pattern.

Claim 16 (Currently amended): A method of measuring step response of a servopositioning system in a recording drive designed to expect essentially no modulation of distance between adjacent parallel servo transitions on a linear recording medium, comprising:

a) at first and second longitudinal locations on the medium, writing a pattern of servo transitions including sets of non-parallel servo transitions, the sets of non-parallel servo transitions defining parallel servo transitions that have respective first and second distances between adjacent parallel servo transitions that differ from each other, the first and second distances being encoded to define position error signals such that the recording drive designed to expect essentially no modulated distance between adjacent parallel servo transitions on the medium will generate the position error signals; and

b) reading the position error signals at each longitudinal location.

Claim 17 (Original): The method of claim 13, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 18 (Currently amended): The system of claim 13, in which the position error signals are ~~is~~-read while the linear recording medium moves relative to the servo read head at constant speed.

Claim 19 (Original): The method of claim 13, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Claim 20 (Original): The method of claim 13, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 21 (Original): The method of claim 13, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.

Claim 22 (Currently amended): A method of simulating rapid transient motion of a linear recording medium, comprising:

a) at a first transverse location on the medium, writing a time-based servo pattern including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions on at least a portion of the medium;

b) modulating distance, as a function of location on the medium, between adjacent parallel servo transitions to encode a position error signal such that a drive designed to expect essentially no modulated distance between adjacent parallel servo transitions on the medium will generate the position error signal; and

c) repeating the writing and modulating steps at a second transverse location.

Claim 23 (Original): The method of claim 22, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 24 (Original): The method of claim 22, further comprising moving the linear recording medium relative to a servo read head of a recording drive at constant speed.

Claim 25 (Original): The method of claim 22, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Claim 26 (Original): The method of claim 22, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 27 (Original): The method of claim 22, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.

Claim 28 (Currently amended): The method of claim 22, further comprising reading the position error signal at each transverse location with a recording drive, and disabling a data write function in the drive if the position error signal exceeds a stop write limit.

Claim 29 (Currently amended): A method of evaluating performance of a linear recording drive designed to expect essentially no modulation of distance between adjacent parallel servo transitions on a linear recording medium compatible with the drive, comprising:

a) providing a medium having a series of parallel servo transitions having distances between adjacent parallel servo transitions which have been modulated as a function of location of the transitions on the medium to encode a position error signal such that the linear recording drive designed to expect essentially no modulated distance between adjacent parallel servo transitions on the medium will generate the position error signal;

b) using the drive to read the position error signal at each transverse location on the medium; and

c) comparing the position error signal to an expected value.

Claim 30 (Original): The method of claim 29, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 31 (Original): The method of claim 29, in which the position error signal is read while the linear recording medium is moving at constant speed.

Claim 32 (Original): The method of claim 29, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Claim 33 (Original): The method of claim 29, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 34 (Original): The method of claim 29, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.